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# A New Species of *Brachynema* (Olacaceae) from South America

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**ABSTRACT.** A new species is described and illustrated in the previously monotypic genus *Brachynema* (Olacaceae). *Brachynema axillare* is known from the base of Sierra de la Neblina in southern Venezuela and northern Brazil, as well as in Amazonian Peru; it differs from *B. ramiflorum* Benth in its axillary inflorescences, non-striped corolla tube, glabrous corolla lobes, and mostly 4-merous flowers.

**RESUMEN.** Se describe una nueva especie en el género *Brachynema* (Olacaceae), previamente considerado monotípico. *Brachynema axillare* se conoce de la base de la Sierra de la Neblina en el sur de Venezuela y en el norte de Brasil, así como en la Amazonía peruana. Difiere de *B. ramiflorum* en sus inflorescencias axilares, tubo de la corola no rayado, lóbulos de la corola glabros, y las flores mayormente 4-meras.

In the most recent revision of neotropical Olacaceae (Sleumer, 1984), *Brachynema* was considered monotypic and endemic to central Amazonian Brazil. In a series of expeditions to the Sierra de la Neblina in southern Venezuela between 1984 and 1987 (Brewer-Carías, 1988), numerous additional collections of the genus were made and subsequently determined as *Brachynema ramiflorum* Benth. However, more detailed study revealed that the Venezuelan specimens are significantly different from this species and merit recognition as a distinct species, due to their axillary (vs. ramiflorous), often tetramerous (vs. strictly pentamerous) flowers, tricolpate instead of triplicate pollen (Lobreau-Callen, 1980), larger fruits, smaller calyx at anthesis, glabrous corolla lobes (vs. internally hairy), and the base of the corolla tube purple and lacking the characteristic "zebra" stripes of *B. ramiflorum*.

***Brachynema axillare*** R. Duno & P. E. Berry, sp. nov. TYPE: Venezuela. Estado Amazonas: Dpto. Río Negro, 0 to 2 km W of Cerro La Neblina Base Camp, along Río Mawarinuma, 0°50'N, 66°10'W, 140 m, 7 Feb. 1984, Liesner 15707 (holotype, VEN; isotype, MO). Figure 1.

Haec species *Brachynemati ramifloro* Benth affinis, sed ab eo inflorescentia axillari non ramiflora, floribus plerumque tetrameris, corollae lobulis glabris etiam tubo basaliter purpureo, polline tricolpato differt.

Sparsely branched shrub or small tree 3–8 m tall. Leaves chartaceous, simple, alternate, glabrous, estipulate; blade narrowly to broadly elliptic or ovate, 20–40 cm long, 5–20 cm wide, base rounded to cuneate, apex long-acuminate to caudate, the tip often somewhat curved to one side, penninerved, with 9–13 subopposite to alternate pairs of parallel secondary veins looping near the margin to form a submarginal vein, prominent on the lower surface, sunken on the upper surface, tertiary veins conspicuous and running perpendicular to the secondary veins; margin shallowly to prominently sinuate-dentate, each tooth ending in a gland; petiole (1–)3–25 cm long, terete, noticeably thickened at both the base and the apex. Inflorescence an axillary fascicle or dense corymb of 10–20 flowers on a thickened, glabrous to puberulous axis 5–10 mm long. Flowers actinomorphic, bisexual, 4- or 5-merous; pedicels 1–2.5 mm long. Calyx cupular, greenish white when fresh, shallowly lobed, ca. 0.5 mm tall and 2 mm wide at anthesis. Corolla tube 16–25 mm long at anthesis, firm-fleshy when fresh, 2–4 mm wide at the base, glabrous to puberulous, uniformly violet-purple at the base, turning white toward the rim, the lobes white, glabrous, 4–6 mm long. Stamens 4 or 5, epipetalous, included at the base of the tube, filaments ca. 1 mm long; anthers basifixed, ca. 3 mm long, narrowly pointed at the apex, longitudinally dehis-

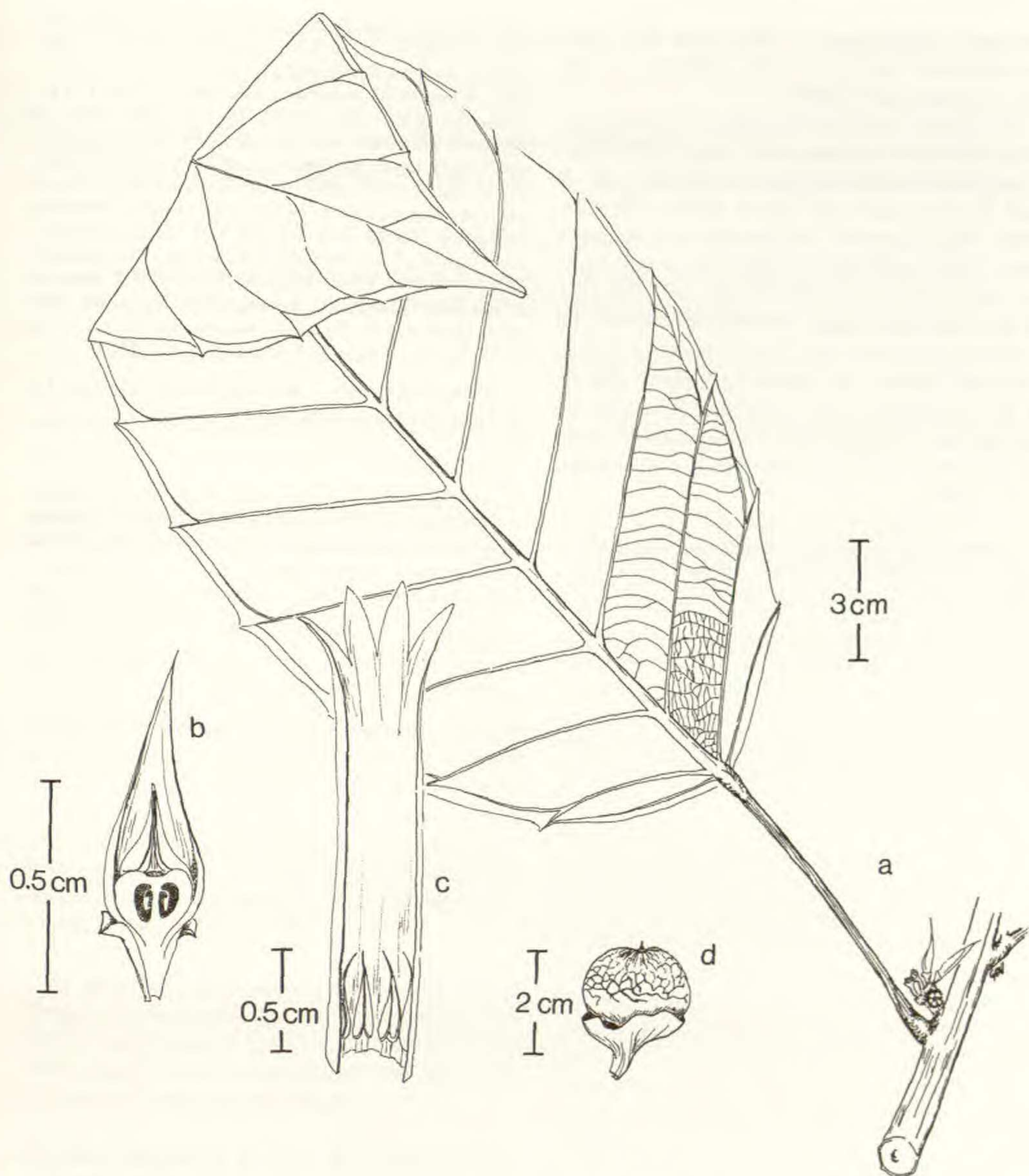


Figure 1. *Brachynema axillare* R. Duno & P. E. Berry. —a. Leafy branch showing the axillary inflorescence with buds. —b. Floral bud in longitudinal section. —c. Opened corolla showing the stamens at the base of the tube. —d. Fruit with the enlarged calyx. Drawing by Giovannina Orsini Velásquez.

cent; pollen suboblate, polar axis  $22.5 \mu\text{m}$  long, equatorial axis  $28.7 \mu\text{m}$  long, circular or subtriangular in polar view, tricolpate, the colpi broadened,  $14 \mu\text{m}$  long by  $5 \mu\text{m}$  wide, exine very finely reticulate or psilate,  $3 \mu\text{m}$  thick, without apertural thickenings. Ovary subglobose, 3–5-locular; ovules 1 per locule, pendulous; stigma sessile, capitate. Drupe globose or depressedly globose with a pointed apical projection, 2–2.5 cm diam., green to purple-black

when fresh, the calyx enlarged and persistent, surrounding the lower part of the fruit. Seed 1, subglobose, longitudinally striate, 1.5–2 cm diam.

*Ecology and distribution.* Evergreen lowland forest on slopes and along gravelly and silty riverbanks, 100–200 m elevation, known mainly from the base of Sierra de la Neblina in adjacent parts of Estado Amazonas, Brazil, and Estado Amazonas,

Venezuela; also known in Amazonian Peru from Departamento Loreto near the confluence of the Ríos Marañon and Ucayali.

*Brachynema* is still of uncertain placement in the Olacaceae and is unique in the family in its glandular-dentate leaves and pulvinar thickenings at both the base and apex of the petiole (Sleumer, 1984). The leaves of *B. axillare* are very similar to those of *B. ramiflorum*, but the flowers and fruits are always borne near the ends of young branches in the leaf axils, rather than lower down on the trunk or on branches where the leaves have already dehisced. Neither the distinctive "zebra" striping of the lower part of the corolla of *B. ramiflorum* nor the lines of hairs present on the inside of the corolla lobes have been observed in any specimen of *B. axillare*.

*Paratypes.* VENEZUELA. **Amazonas:** 0–2 km E of Cerro La Neblina Base Camp, on Río Mawarinuma, 0°50'N, 66°10'W, 140 m, 7 Feb. 1984, *Liesner 15707* (MO), 20 Feb. 1984, *Liesner 16136* (MO, VEN); along Río Baria (= Río Mawarinuma) just upstream from Base Camp, SW side of Cerro de La Neblina, 0°49'50"N, 66°09'40"W, 140 m, 10 Apr. 1984, *Gentry & Stein 46512*

(MO), 11 Apr. 1984, *Thomas & Plowman 3002* (MO, NY), 16 Apr. 1984, *Gentry & Stein 46668* (MO), 4–5 July 1984, *Davidse & Miller 27009* (MO), 27 Nov. 1984, *Croat 59373* (MO), 4 Dec. 1984, *Anderson 13480* (MICH, MO), 17 Feb. 1985, *Nee 30915* (MO, VEN), 18 Feb. 1985, *Boom & Weitzman 5894* (MO, NY), *Stannard 459* (VEN), *Stannard 460* (VEN); upper Río Baría, ca. 0°55'N, 66°15'W, *Davidse & Miller 26908* (MO); Cerro de la Neblina, lowland and slope forests, 170 m, 29 Jan. 1954, *Maguire, Wurdack & Bunting 37401A* (MO, NY). BRAZIL. **Amazonas:** Serra da Neblina Base Camp on Cano Tucano, Rio Cauaburi, 125 m, 12 Nov. 1965, *Maguire, Steyermark & Maguire 60160* (MO, NY). PERU. **Loreto:** Dpto. Nauta, Río Marañon, Quebrada de Sapira del caserío Florida, ca. 8 km above Nauta, 13 June 1979, *Rimachi 4465* (MO).

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#### Literature Cited

- Brewer-Carías, C. (Editor). 1988. Cerro de la Neblina. Resultados de la expedición 1983–1987. Fundación para el Desarrollo de las Ciencias Físicas, Matemáticas y Naturales, Caracas, Venezuela.
- Lobreau-Callen, D. 1980. Caractères comparés du pollen des Icacinaceae et des Olacaceae. *Adansonia* II, 20(1): 29–80.
- Sleumer, H. O. 1984. Olacaceae. *Flora Neotropica* 38. New York Botanical Garden, New York.